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# MINERAL INDUSTRY SURVEYS

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## TIN IN NOVEMBER 1997

Domestic consumption of primary tin in November was estimated by the U.S. Geological Survey to be 5% below that in October 1997 and 6% above that in November 1996.

The *Platt's Metals Week* average composite price for tin in November was $3.78 per pound, slightly higher than in October 1997 and 6% lower than in November 1996.

Following its purchase of Proler International Corp. earlier this year, Schnitzer Steel Industries, Inc. (Portland, OR) closed the two former Proler detinning plants, located in Prescott, AZ, and Seattle, WA. Schnitzer still operates the former Proler scrap plant in Lathrop, CA, which processes tinplate scrap and used tin cans (Container Recycling Report, 1997).

General Motors Corp. (Detroit, MI) announced it would no longer use terne plate in the fuel tanks of its standard-size C/K pickup trucks after summer 1998. The automaker indicated it would use plastic tanks instead to better accommodate alternate fuels and to help achieve a weight reduction. Terne plate is a flat-rolled steel product having a 92% lead- 8% tin coating on each side. This switch by GM is believed to be the single largest withdrawal in memory from any single application in the auto market. The domestic and world market for auto fuel tanks has shown a mixed pattern in recent years: domestically, Chrysler Corp. has converted completely to plastic; Ford Motor Corp. uses a mix of plastic and terne plate; GM uses a mix also, but is believed to be the largest user of terne plate for fuel tanks in North America. One analyst believed the current breakdown for the North American auto fuel tank field was: 60% terne plate and 40% plastic. Europe is reportedly strong in plastic tanks, possibly 80% of the market. Asia appears to favor a lead/nickel-coated terne plate. Domestic terne plate producers include AK Steel Corp. (Middletown, OH), U.S. Steel Corp. (Pittsburgh, PA), and WCI Steel Inc. (Warren, OH) (American Metal Market, 1997).

The Novosibirsk tin smelter in Siberia has agreed to conditions for a $4 million credit, repayable in 3 years, with its principal financier, Tokobank of Moscow, for a refinery upgrade project. Tokobank also extended an $18 million loan that would enable Novosibirsk to buy a gas turbine, which would be installed in a new power generating plant designed to cut the company's energy costs by 40%. Still under feasibility study is a larger credit to fund purchase of Novosibirsk's raw material needs. Tokobank, ranked the 13th largest commercial bank in Russia, is one of the most active lenders to Russian metal producers, especially in the ferrous metal sector. (Platt's Metals Week, 1997).

In China, Quinghai's Xitiexhan Mining Department signed an agreement for a tin mining project which had been in discussion for 4 years. The estimated cost is $5 million. The project would take 3 years to complete. Tin ore capacity was expected to be about 450,000 tons annually. The overall design will be overseen by the Lanzhou Nonferrous Metallurgy Research Center (CRU International, 1997).

The Association of European Producers of Steel for Packaging (APEAL), based in Brussels, Belgium, announced that its steel can recycling rate increased by 4 percentage points in 1996, to 45%. This is the third highest rate worldwide, trailing only Japan (77%) and the United States (58%). Germany, posting an 81% recovery rate, up from 67% the prior year, led the nine European countries served by APEAL's eight member firms. Five areas within Germany registered rates over 90%. The United Kingdom had the lowest rate in Europe, posting 16%, the same as in the prior year. In Europe, about half of the recovered steel cans come from solid waste treatment plants, including incinerators, that have magnetic separation. Curbside collection programs account for 45% of the recovery, with magnetic separation at composting plants adding an extra 6% (Container Recycling Report, 1997).

### Update

On December 31, 1997, the *Platt's Metals Week* composite price for tin was $3.67 per pound.

Prepared by the Metals Section and the Data Collection and Coordination Section, January 20, 1998.

## References Cited

American Metal Market, 1997, GM plan on fuel tanks a bad terne for steel: American Metal Market, v. 105, no. 221, November 13, p. 1.

Container Recycling Report, 1997, Steel container recycling: Container Recycling Report, v. 8, no. 12, December, p. 3.

CRU International, 1997, Other global news and developments: CRU Tin Monitor, December [unpaginated].

Platt's Metals Week, 1997, Novosibirsk Tin agrees finance for refinery upgrade: Platt's Metals Week, v. 68, no. 45, November 10, p. 2.

TABLE 1
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

| | | 1997 | | |
|---|---|---|---|---|
| | 1996 | October | November | January-November |
| Production, secondary e/ 2/ | 11,000 | 900 | 900 | 9,900 |
| Consumption: | | | | |
| Primary | 36,500 | 3,200 r/ | 3,050 | 34,000 |
| Secondary | 8,180 | 898 r/ | 904 | 9,890 |
| Imports for consumption, metal | 30,200 | 3,710 | NA | NA |
| Exports, metal | 4,780 | 435 | NA | NA |
| Stocks at end of period | 11,800 | 5,290 r/ | 5,290 | XX |
| Prices (average cents per pound): 3/ | | | | |
| Metals Week composite 4/ | 412.43 | 377.39 | 378.42 | XX |
| Metals Week New York dealer | 288.10 | 261.44 | 264.29 | XX |
| London, standard grade, cash | 279.00 | 252.00 | 257.00 | XX |
| Kuala Lumpur | 275.19 | 249.80 | 248.18 | XX |

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices.

2/ Comprises tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

3/ From Platt's Metals Week.

4/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed charges, finance charges, and a risk factor. It normally is substantially higher than other tin prices.

TABLE 2
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

| Period | High | Low | Average |
|---|---|---|---|
| 1996 (annual) | 436.25 | 388.49 | 412.43 |
| 1996: | | | |
| November | 409.57 | 392.40 | 401.00 |
| December | 405.37 | 388.49 | 394.76 |
| 1997: | | | |
| January | 404.19 | 387.89 | 396.17 |
| February | 403.46 | 390.40 | 395.64 |
| March | 401.81 | 389.32 | 395.64 |
| April | 393.82 | 380.00 | 386.55 |
| May | 393.67 | 378.72 | 386.59 |
| June | 384.93 | 374.20 | 377.81 |
| July | 375.61 | 362.36 | 370.10 |
| August | 377.46 | 362.60 | 369.01 |
| September | 384.65 | 362.91 | 372.60 |
| October | 400.12 | 366.51 | 377.39 |
| November | 387.04 | 363.84 | 378.42 |

1/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed charges, finance charges, and a risk factor. It normally is substantially higher than other tin prices.

Source: Platt's Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(Metric tons, unless otherwise noted)

| Period | Tinplate waste (waste, strips, cobbles, etc.) (gross weight) | Tinplate (all forms) | | | |
|---|---|---|---|---|---|
| | | Gross weight | Tin content | Tin per metric ton of plate (kilograms) | Shipments 2/ |
| 1996 | 177,000 | 1,550,000 | 9,450 | 6.1 | 2,490,000 |
| 1997: | | | | | |
| January | 15,900 | 168,000 | 853 | 5.1 | 204,000 |
| February | 13,600 | 166,000 | 775 | 4.7 | 183,000 |
| March | 12,700 | 172,000 | 784 | 4.5 | 205,000 |
| April | 13,800 | 176,000 | 776 | 4.4 | 210,000 |
| May | 13,200 | 175,000 | 721 | 4.1 | 213,000 |
| June | 12,800 | 165,000 | 782 | 4.7 | 218,000 |
| July | 12,900 | 172,000 | 777 | 4.5 | 204,000 |
| August | 12,900 | 165,000 | 687 | 4.2 | 213,000 |
| September | 14,000 | 175,000 | 819 | 4.7 | 215,000 |
| October | 12,700 | 163,000 | 834 | 5.1 | 212,000 |
| November | 11,500 | 160,000 | 789 | 4.9 | NA |

NA Not available.
1/ Data are rounded to three significant digits.
2/ Shipments data from American Iron and Steel Institute monthly publication AIS10.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

| Country or product | 1996 | 1997 | | |
|---|---|---|---|---|
| | | September | October | January-October |
| Imports: | | | | |
| Concentrates (tin content): | | | | |
| Canada | -- | -- | 7 | 20 |
| Japan | -- | -- | -- | 37 |
| Total | -- | -- | 7 | 57 |
| Metal (unwrought tin): | | | | |
| Bolivia | 6,290 | 188 | 834 | 5,170 |
| Brazil | 9,460 | 761 | 721 | 7,460 |
| Chile | 407 | -- | -- | 464 |
| China | 2,760 | 244 | 527 | 3,960 |
| Hong Kong | -- | -- | -- | 258 |
| India | 898 | 182 | 20 | 1,560 |
| Indonesia | 7,550 | 660 | 600 | 6,370 |
| Malaysia | 965 | -- | 30 | 1,040 |
| Netherlands | -- | -- | -- | 200 |
| Peru | 481 | 541 | 680 | 5,710 |
| Russia | 435 | -- | -- | 480 |
| Thailand | -- | 160 | 240 | 420 |
| Other | 922 | 70 | 53 | 689 |
| Total | 30,200 | 2,810 | 3,710 | 33,800 |
| Other (gross weight): | | | | |
| Alloys | 11,800 | 225 | 54 | 3,640 |
| Bars and rods | 695 | 130 | 147 | 886 |
| Foil, tubes, and pipes | (2/) | (2/) | -- | 1 |
| Plates, sheets, and strip | 641 | 36 | 20 | 177 |
| Waste and scrap | 6,740 | 126 | 311 | 1,780 |
| Miscellaneous | 1,360 | 147 | 164 | 1,280 |
| Total | 21,300 | 664 | 696 | 7,760 |
| Exports (metal) | 4,780 | 447 | 435 | 4,030 |

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

| Product | 1996 | 1997 2/ | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | October | | | November | | | January-November total |
| | | Primary | Secondary | Total | Primary | Secondary | Total | |
| Alloys (miscellaneous) 3/ | W | 34 | -- | 34 | 33 | -- | 33 | 385 |
| Babbitt | 851 | 26 | W | 26 | 7 | W | 7 | 183 |
| Bar tin and anodes | 1,150 | 8 | -- | 8 | 8 | -- | 8 | W |
| Bronze and brass | 2,760 | 65 | 119 | 184 | 95 | 94 | 189 | 1,790 |
| Chemicals | 7,520 | 622 r/ | W | 622 r/ | 622 | W | 622 | 6,900 |
| Collapsible tubes and foil | 240 | 30 | -- | 30 | 20 | -- | 20 | 260 |
| Solder | 15,600 | 528 | W | 528 | 438 | W | 438 | 5,530 |
| Tinning | 2,030 | 70 | -- | 70 | 69 | -- | 69 | 1,140 |
| Tinplate 4/ | 9,350 | 834 | -- | 834 | 789 | -- | 789 | 8,460 |
| Tin powder | 573 | W | -- | W | W | W | W | 192 |
| White metal 5/ | 1,340 | W | -- | W | W | -- | W | W |
| Other | 3,230 | 86 | 279 r/ | 365 r/ | 73 | 310 | 383 | 3,660 |
| Total reported | 44,700 | 2,300 r/ | 398 r/ | 2,700 r/ | 2,150 | 404 | 2,560 | 28,500 |
| Estimated undistributed consumption 6/ | -- | 900 | 500 | 1,400 | 900 | 500 | 1,400 | 15,400 |
| Total | 44,700 | 3,200 r/ | 898 r/ | 4,100 r/ | 3,050 | 904 | 3,960 | 43,900 |

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Annual respondent data not prorated for individual end use data.

3/ Includes terne metal.

4/ Includes secondary pig tin and tin acquired in chemicals.

5/ Includes pewter, britannia metal, and jewelers' metal.

6/ Estimated consumption of plants reporting on an annual basis.

TABLE 6
DEFENSE LOGISTICS AGENCY
TIN STOCKPILE DISPOSALS 1/

(Metric tons)

| Period | Monthly disposals 2/ |
|---|---|
| 1996: | |
| November | 210 |
| December | 200 |
| Year total | 6,670 |
| 1997: | |
| January | 215 |
| February | 200 |
| March | 115 |
| April | 60 |
| May | 200 |
| June | 60 |
| July | 210 |
| August | 220 |
| September | 45 |
| October | 45 |
| November | 35 |
| Total | 1,410 |

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ These disposals represent only the daily, spot sales program. They do not include the long-term dealer contract sales program.

Source: Defense Logistics Agency.